

The opinion in support of the decision being entered today was **not** written
for publication and is **not** binding precedent of the Board.

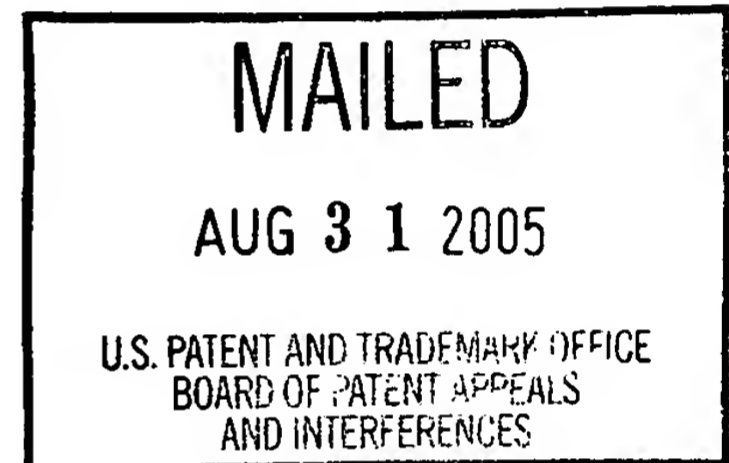
UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte Donald K. Harper JR.

Appeal No. 2005-2019
Application No. 10/619,647

ON BRIEF



Before DIXON, SAADAT, and NAPPI, **Administrative Patent Judges.**
DIXON, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-22,
which are all of the claims pending in this application.

We AFFIRM-IN-PART.

BACKGROUND

Appellant's invention relates to an electrical contact assembly with insulative carrier, stapled contact attachment and fusible element. An understanding of the invention can be derived from a reading of exemplary claims 1 and 13, which are reproduced below.

1. An electrical contact assembly comprising:

a contact terminal comprising a base and two cantilevered deflectable contact arms extending from at least one lateral side of the base, a first one of the contact arms extending in a downward direction and a second one of the contact arms extending in an upward direction; and

a fusible element fixedly attached to an end of the first contact arm,

wherein the fusible element is adapted to be fused to a first pad on a first electronic component, wherein the second contact arm comprises a surface contact area for contacting a second pad on a second electronic component, and wherein the first and second contact arms are adapted to deflect when the contact area of the second contact arm is contacted by the second pad of the second electronic component.

13. An electrical connector subassembly comprising:

a carrier comprising electrically insulative material; and

a plurality of electrical contact terminals connected to the carrier, each terminal comprising a base and at least two deflectable contact arms extending from at least one lateral side of the base,

wherein the carrier comprises apertures, wherein at least one of the contact arms of each terminal extends through a respective one of the apertures, and wherein the base of each terminal comprises tabs which extend through the

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carrier and are deformed with the tabs extending back towards a main section of the base to form a stapled connection of the base with the carrier.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Grabbe	5,228,861	Jul. 20, 1993
Röder et al. (Röder)	5,860,831	Jan. 19, 1999
Lin et al. (Lin)	6,217,348	Apr. 17, 2001
Harper, Jr. et al. (Harper)	6,375,474	Apr. 23, 2002

Claims 1-8 stand rejected as being unpatentable under 35 U.S.C. § 103 over Harper in view of Lin. Claim 1 stands rejected as being unpatentable under 35 U.S.C. § 103 over Grabbe in view of Lin. Claims 9-15 stand rejected as being unpatentable under 35 U.S.C. § 103 over Grabbe and Lin as applied to claim 1 further in view of Röder. Claims 9, 10, and 13-22 stand rejected as being unpatentable under 35 U.S.C. § 103 over Harper and Lin as applied to claims 1-8 further in view of Grabbe and Röder. The examiner has withdrawn the rejection under 35 U.S.C. § 112, Second Paragraph.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellant regarding the above-noted rejections, we make reference to the answer (mailed Dec. 6, 2004) for the examiner's reasoning in support of the rejections, and to the brief (filed Sep. 20, 2004) and reply brief (filed Feb. 4, 2005) for appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 103

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. **See In re Rijckaert**, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. **See In re Lintner**, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is *prima facie* obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. **See In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual basis with these facts being interpreted without hindsight

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reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. **See In re Warner**, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), **cert. denied**, 389 U.S. 1057 (1968). Our reviewing court has repeatedly cautioned against employing hindsight by using the appellant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. **See, e.g., Grain Processing Corp. v. American Maize-Prods. Co.**, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

When determining obviousness, “the [E]xaminer can satisfy the burden of showing obviousness of the combination ‘only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.’” **In re Lee**, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing **In re Fritch**, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). “Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence.’” **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). “Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact.” **Dembiczak**, 175 F.3d at 999-1000,

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50 USPQ2d at 1617, citing **McElmurry v. Arkansas Power & Light Co.**, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993).

Further, as pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Therefore, we look to the limitations of independent claim 1. Here, we find that independent claim 1 requires that "a fusible element fixedly attached to an end of the first contact arm" and the "first one of the contact arms extending in a downward direction."

The examiner has relied upon the teachings of Harper (Answer at page 3) and Grabbe (Answer at pages 4-5) to teach recited structure of the electrical contact but for the presence of a fusible element. The examiner relies upon the teachings of Lin to teach and suggest the use of a fusible element on the end of an arm of the electrical contact arm. (Answer at page 3.) The examiner maintains that it would have been obvious to one of ordinary skill in the art at the time of the invention to form a permanent connection between the terminal and the board as taught by Lin. (Answer at page 3 .)

While we agree that the permanent contact would have been desirable in a general sense as asserted by the examiner, we also agree with appellant's general assertion at page 6 of the brief that "movement of a contact at a solder joint is not desired because of risk that the soldered connection will be damaged." While appellant

provides no support for the assertion, we find it reasonable that a cantilevered deflectable arm would cause some undesirable changes in the retention of the fusible element during flexure. Here, we find a great deal of unsupported, but seemingly reasonable speculation by both the examiner and appellant. Therefore, we look to the evidence before us in the teachings of Harper, Grabbe and Lin. Lin teaches at column 1, lines 19-25, that “[w]hen the solder ball 2 is attached to the tail 13 of the contact 12, the bottom face 11 may contact and deform the solder ball 2. Thus, solder balls of different shapes are the result, leading to various speeds of melting and solidifying thereby causing the electrical connector 1 to incline and complicating the process of connecting the contacts 12 to the mother board 3.” Appellant argues that Lin only teaches that the fusible element may be on a stationary portion of contacts. (Brief at page 6.) We agree with appellant that Lin provides no express teaching or suggestion that fusible elements are used on non-stationary or deflectable elements. (Brief at page 6.) Appellant argues that it would not have been obvious to one of ordinary skill in the art at the time of the invention to normally put a fusible element one the end a moveable element/section and that there would have been an obvious risk that the soldered connection would be damaged when the moveable section deflects. (Brief at page 6.) We agree with appellant’s line of reasoning and find it to be persuasive to rebut the examiner’s generalized statement of a motivation for the combination. While appellant has not provided specific evidence to rebut the examiner combination, we find

that appellant has sufficiently clouded the examiner's generalized statement of a motivation for the combination of a fusible element into the connectors of Harper and Grabbe. Therefore, we find that the examiner has not made the requisite showing to establish a *prima facie* case of obvious since we find no persuasive motivation for the combination as set forth by the examiner in the grounds of rejection. Therefore, we cannot sustain the rejection of independent claim 1 and its dependent claims. Similarly, we find that the examiner has not made the requisite showing to establish a *prima facie* case of obvious since we find no persuasive motivation for the combination as set forth by the examiner in the grounds of rejection. Therefore, we cannot sustain the rejection of independent claim 21 and its dependent claim 22.

With respect to independent claim 13, we find this claim to be directed to a different scope than independent claim 1 (and more akin to dependent claim 9), and we will address the claim separately. We find no limitation as to a fusible element being present on either of the contact terminals in claim 13. Therefore, we find no need for the examiner to rely upon the teachings of Lin for a fusible element in combination with either Harper or Grabbe. Additionally, we do not find it necessary to rely on the teachings of Röder for the stapling feature of the instant claim language.

Claim 13 sets forth an article of manufacture having a carrier and a plurality of electrical contact terminals connected to the carrier wherein each terminal has a base and two deflectable contact arms. The base of each terminal having tabs which are

deformed to form a stapled connection. From our reading of the stapled connection, we find that Grabbe in Figure 12 teaches that fitted tabs 22' are through the carrier to attach the contact arms to the carrier. We find that these "fitted tabs" are deformed and the tabs extend back towards the main section of the base to form a stapled connection of the base with the carrier as recited in the claim. Here, we note that the claim language does not detail what configuration of the "stapled connection" is required by the claim. Therefore, we look to appellant's specification to determine if any specific definition of structure is to be accorded to this limitation. Most recently the Federal Circuit stated that "It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." **Phillips v. AWH Corp.**, No. 03-1269, 03-1286, 2005 U.S. App. LEXIS 13954, at *22 (Fed. Cir. Jul. 12, 2005) (**en banc**) (internal quotations omitted). The words of a claim are generally given their ordinary and customary meaning, which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." **Id.** To ascertain the meaning of a claim term, "the court looks to those sources available to the public that show what a person of ordinary skill in the art would have understood disputed claim language to mean. Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic

evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.* at *26 (internal quotations and citations omitted).

Finding no specific definition, we apply an ordinary meaning to this limitation. We find that staples and staplers have many configurations including both curved and straight deformations. We find that the deformations of Grabbe teach a “stapled connection” as claimed, and we will sustain the rejection of independent claim 13 based solely upon the teachings of Grabbe.¹

Appellant argues that Grabbe teaches only that the tabs 22’ extend outwardly away from each other and not back towards the main section of the base. (Brief at pages 12, 16 and 17.) The examiner has maintained that it may be “arguably ambiguous” whether the tabs of Grabbe extent back towards the main section of the base. We disagree with appellant’s contention and find that any deformation to bend the tabs which go through the base would have been in a direction back towards the main section of the base. Therefore, we do not find the teachings of Grabbe to be ambiguous. Moreover, we would agree with appellant that the tabs are not curled so as to have the end/tip of the tab facing the main section of the base, but we find no such

¹ We note that appellant’s specification at paragraph [0030], line 14 et seq. that the “staple mounts comprise the tabs 60 being bent towards each other and then inwards towards the base 44 to capture portions of the carrier between outer ends of the tabs 60 and the base 44. In alternative embodiments other forms of stapled mounting could be provided.” [Emphasis added.] Therefore, no specific definition or structure is set forth to interpret the stapled connection.

limitation present in the claim and we must address the invention as recited in the language of the claims and interpreted in light of the specification.

For completeness we will comment on the combination of Grabbe with Röder, we agree with appellant that the examiner has not made a persuasive argument as to why it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of these two different types of connectors to achieve a curled stapled connection. With Röder, the curled stapled connection would appear to be for more securely affixing the attachment to the round cable which arguably is not present in Grabbe, yet it may be desirable for greater holding force and a more secure hold or for an ease in deforming the tabs as with a traditional office paper stapler where both straight bends and curved bends may be used depending on the stapler or process to staple used. The examiner has asserted that at the time of the invention, it would have been obvious that the crimping of the Grabbe tabs "could naturally result in the tabs extending back toward the body." The examiner goes further to state that the "structure would have been an obvious if not natural consequence of the crimping die and would have been desirable to best secure the contact to the substrate, such motivation being well known in the art." (Answer at page 5.) Here, we find that the examiner's statement for the motivation or modification is rather weak and speculative, but that it goes far beyond that needed to address the invention recited in independent claim 13. Therefore, we find that for the basic teachings of crimping that are needed to

secure a connector to a wire or substrate from Röder are cumulative of those taught by Grabbe and we need not address the combination further. If the claims were amended to have a curled stapled connection, we opine that the examiner should further elaborate upon the motivation or level of skill in the relevant art of crimping to buttress the connection to bridge the transition from straight bend/crimp to the curled crimp. With this said, we will sustain the rejection of independent claim 13 over the teachings of Grabbe alone. We will sustain the rejection of dependent claim 14 which appellant has elected to group therewith. (Brief at page 17.)

With respect to the combinations based upon Harper with Grabbe, we do make the same findings above, but we additionally agree that the connector of Harper with the compound curvature could have readily been attached to the base by a pair of deformed tabs to secure the connector as taught and fairly suggested by Grabbe. (Answer at page 6.) Appellant provides the same arguments as above which we did not find persuasive. Therefore, we will sustain the rejection of independent claim 13 over the combination of Harper and Grabbe. We will sustain the rejection of dependent claims 14, 16 and 17 which appellant has elected to group therewith. (Brief at page 19.)

With respect to dependent claim 15, appellant argues only the teachings of Grabbe alone does not teach a contact arm with a compound curvature. (Brief at page 20.) But the rejection is based upon the combined teachings of Harper and Grabbe.

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Harper teaches this limitation. Therefore, we will sustain the rejection of dependent claim 15.

With respect to dependent claims 18-20, we find a limitation as to the use of a fusible element as discussed above with respect to independent claim 1. We will similarly not sustain the rejection of these claims since the examiner has not established a *prima facie* case of obviousness.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-12 and 18-22 under 35 U.S.C. § 103 is REVERSED and the decision of the examiner to reject claims 13-17 under 35 U.S.C. § 103 is AFFIRMED.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

Arch Loeb

JOSEPH L. DIXON
Administrative Patent Judge

Wahid D. Daud

MAHSHID D. SAADAT
Administrative Patent Judge

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